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SESSIONS

Statin Eligibility Among Young Adults Prior to Myocardial Infarction

Avinander Singh, Bradley L. Collins, Ankur Gupta, Amber Fatima, Arman Qamar, David Biery, Julio Baez, Mary Cawley, Josh Klein, Jon Hainer, Jorge Plutzky, Christopher P. Cannon, Khurram Nasir, Marcelo F. Di Carli, Deepak L. Bhatt, Ron Blankstein

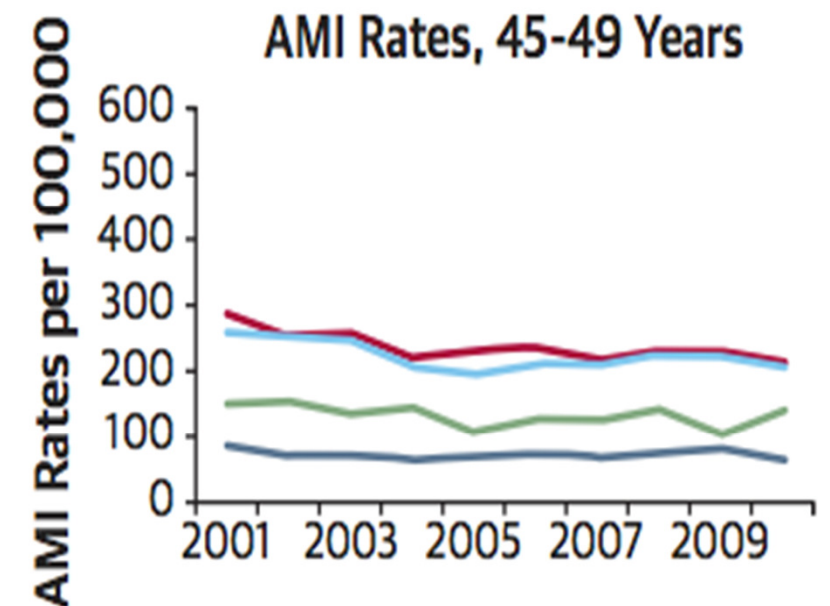
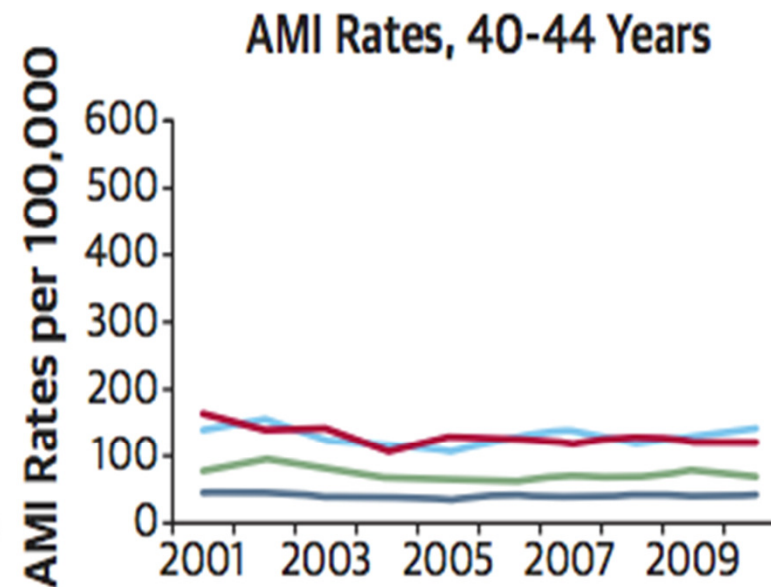
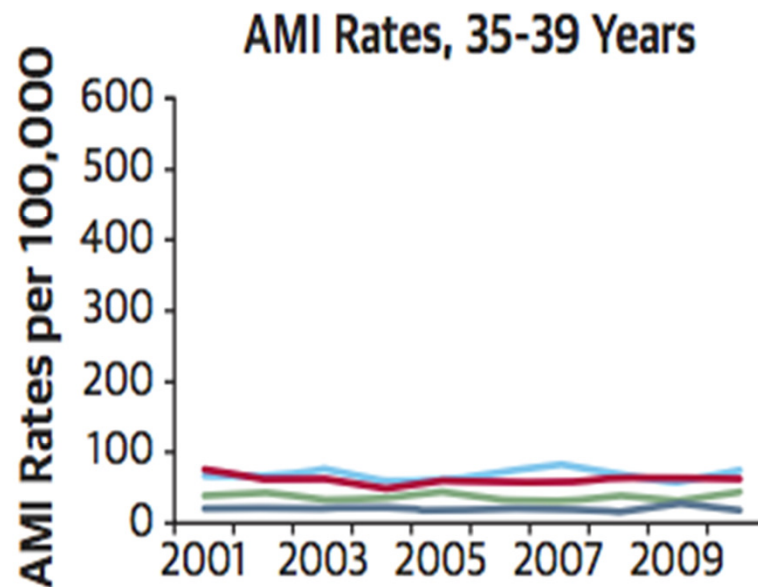
 @AvinanderSingh

#AHA17

Background

- Incidence of MI has declined substantially in the U.S.

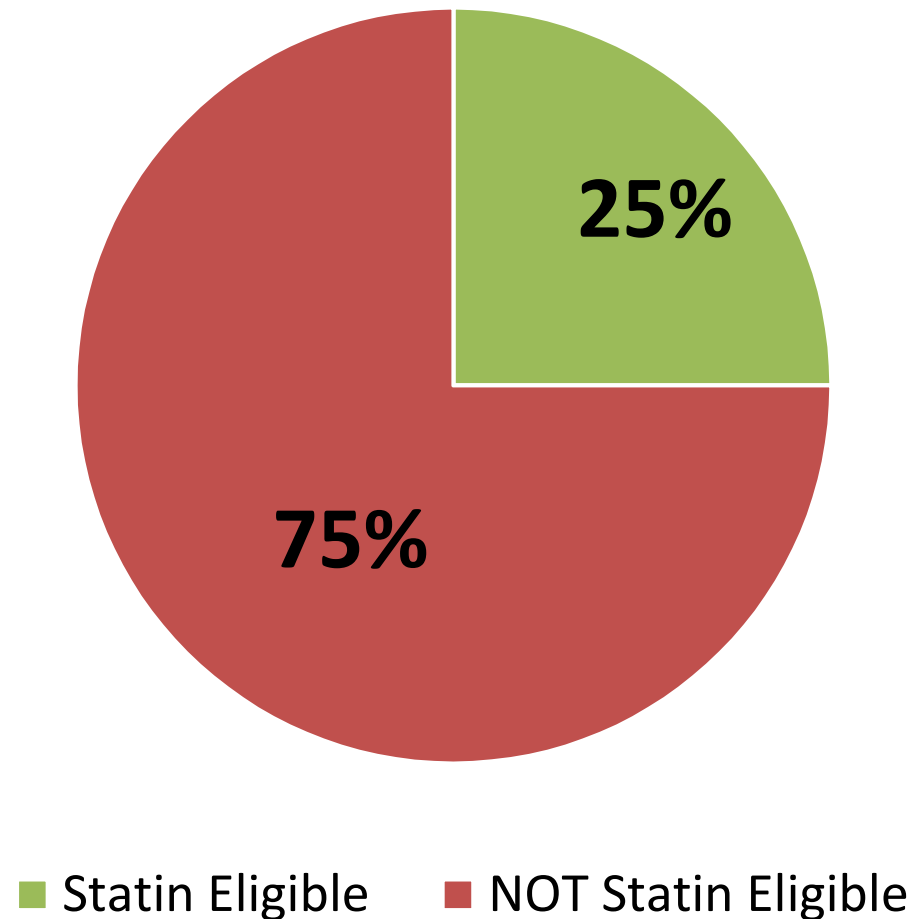
But not in young adults....



Background

- Challenging to predict risk in young adults

Statin Eligibility among 222 Young adults with MI



Objective

To evaluate the performance of contemporary guidelines in identifying the need of statin therapy among a cohort of young adults who experienced their first-MI at a young age in the Young-MI registry

2013 ACC/AHA Blood Cholesterol Guideline

2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

2016 USPSTF Statin Use Recommendation Statement

JAMA | US Preventive Services Task Force | RECOMMENDATION STATEMENT

Statin Use for the Primary Prevention of Cardiovascular Disease in Adults

US Preventive Services Task Force Recommendation Statement

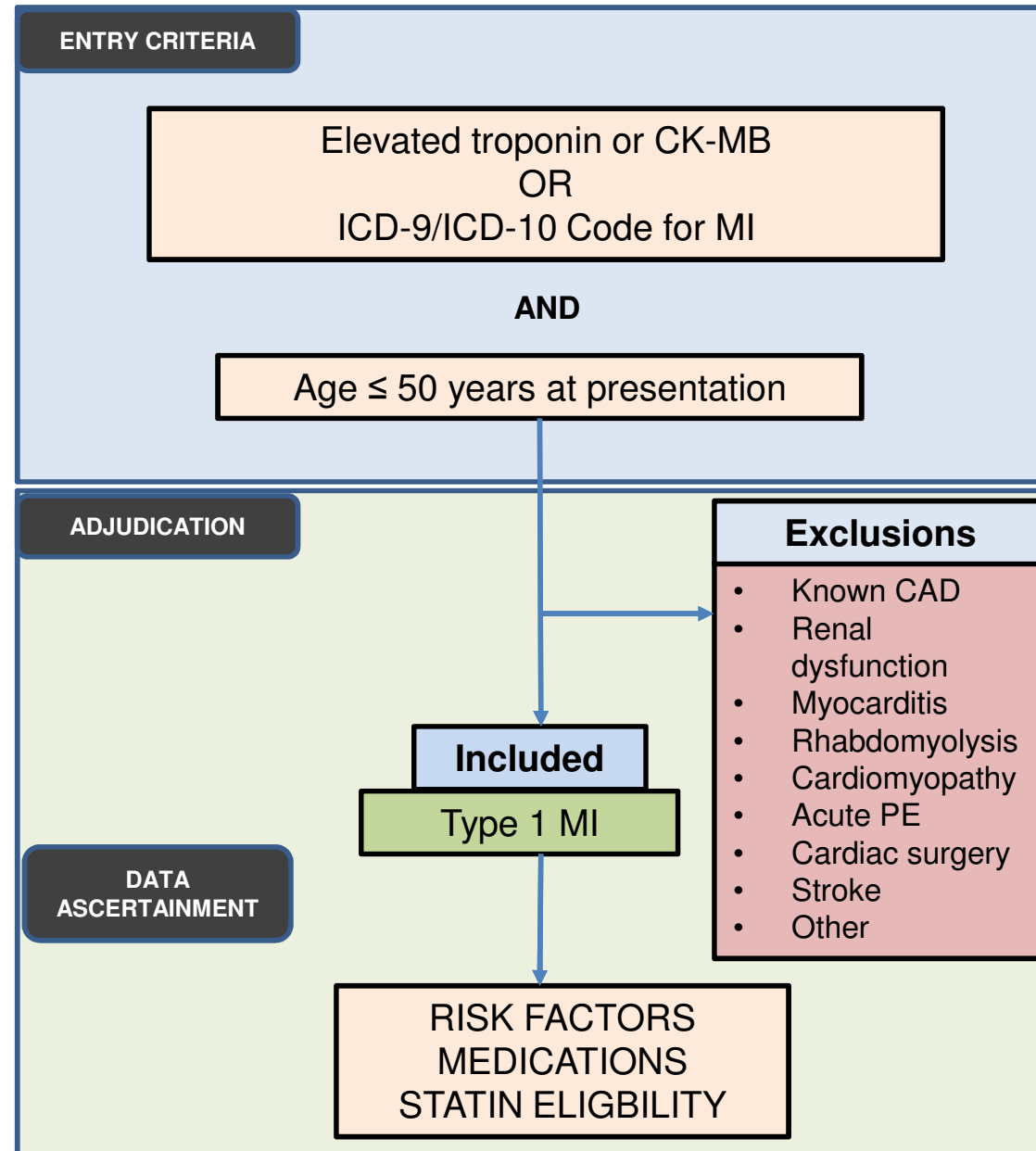
Guidelines

2013 ACC/AHA Blood Cholesterol Guideline

2016 USPSTF Statin Use Recommendation Statement

Treat if LDL\geq190 mg/dL	✓	✓
Utilizes PCE	✓	✓
ASCVD risk treatment threshold	7.5%	10%
LDL \geq70 mg/dL	✓	✗
1 CV RISK FACTOR	✗	✓

Design of Young-MI

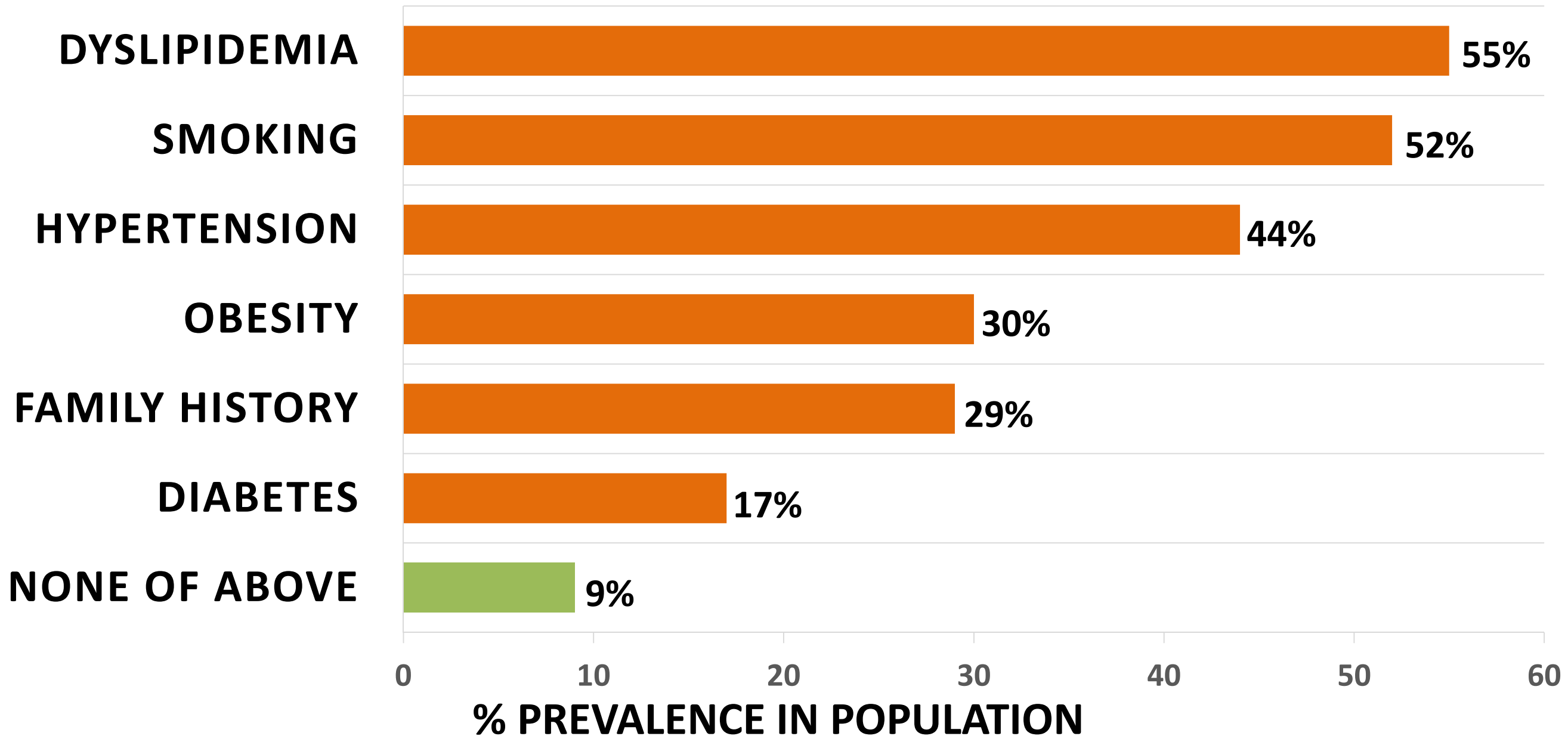


- Statin eligibility determined by the 2013 ACC/AHA cholesterol guidelines & 2016 USPSTF statin recommendations
- ASCVD risk calculated according to PCE
- Statin eligible if guidelines indicate:
statins recommended OR statins considered
- Patients on statins prior to MI were excluded

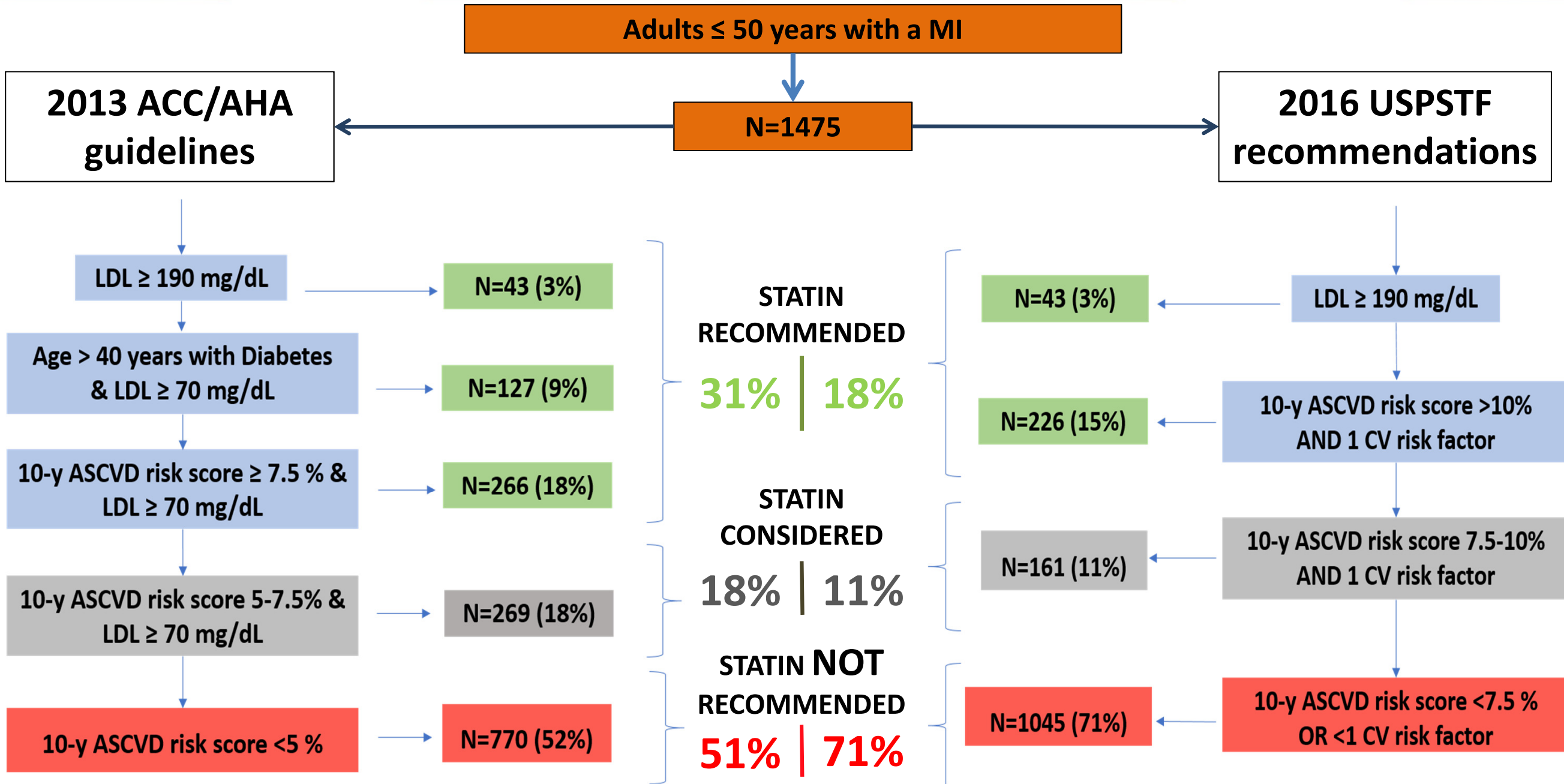
Baseline Characteristics

Characteristics	N=1475
Age at time of MI, median (IQR)	45 (41,48)
Women	294 (20%)
White	1060 (72%)
STEMI	846 (57%)
ASCVD score, median (IQR)	4.8% (2.8, 8.0)

Risk Factors

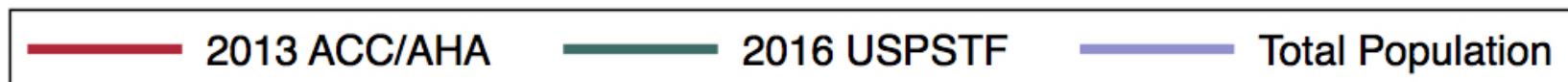
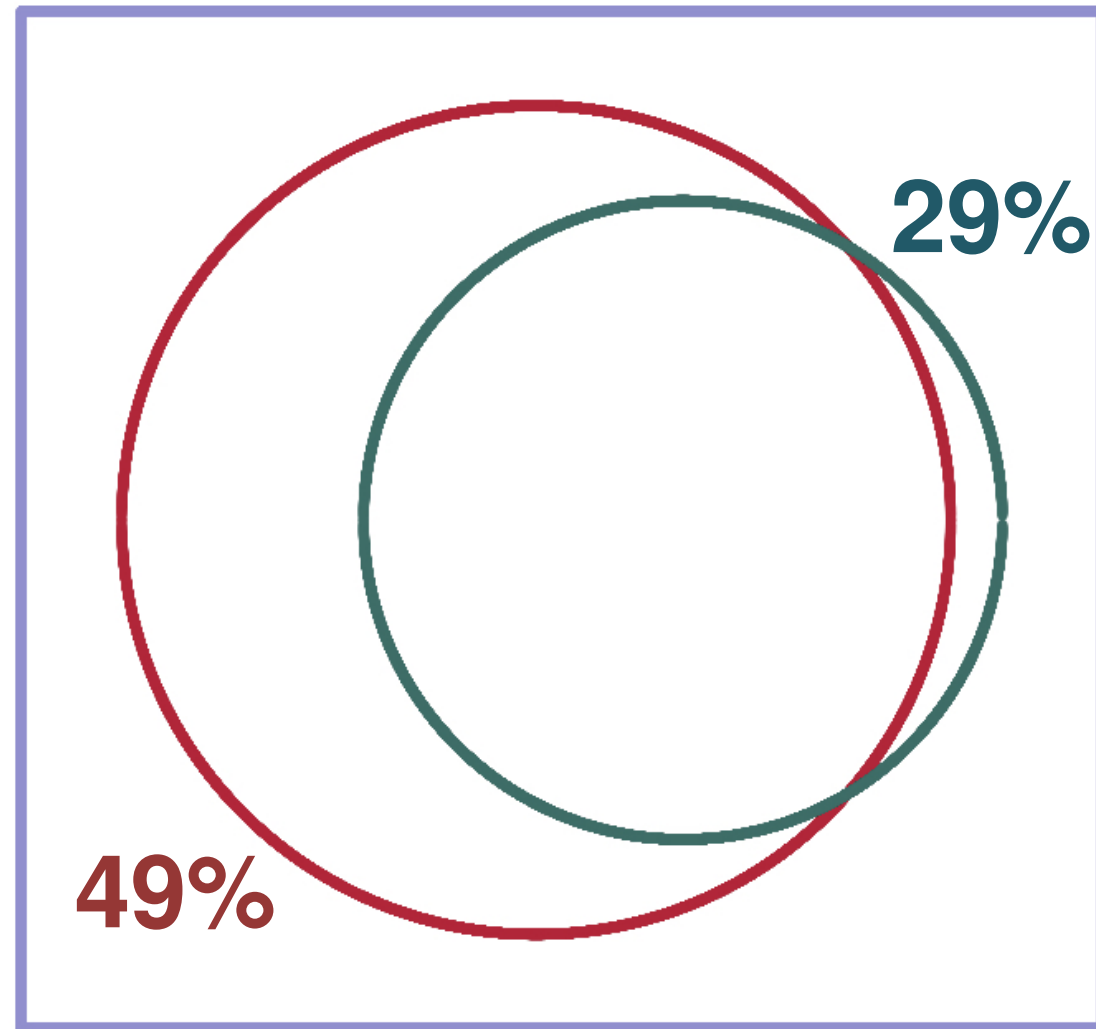


Statin Eligibility



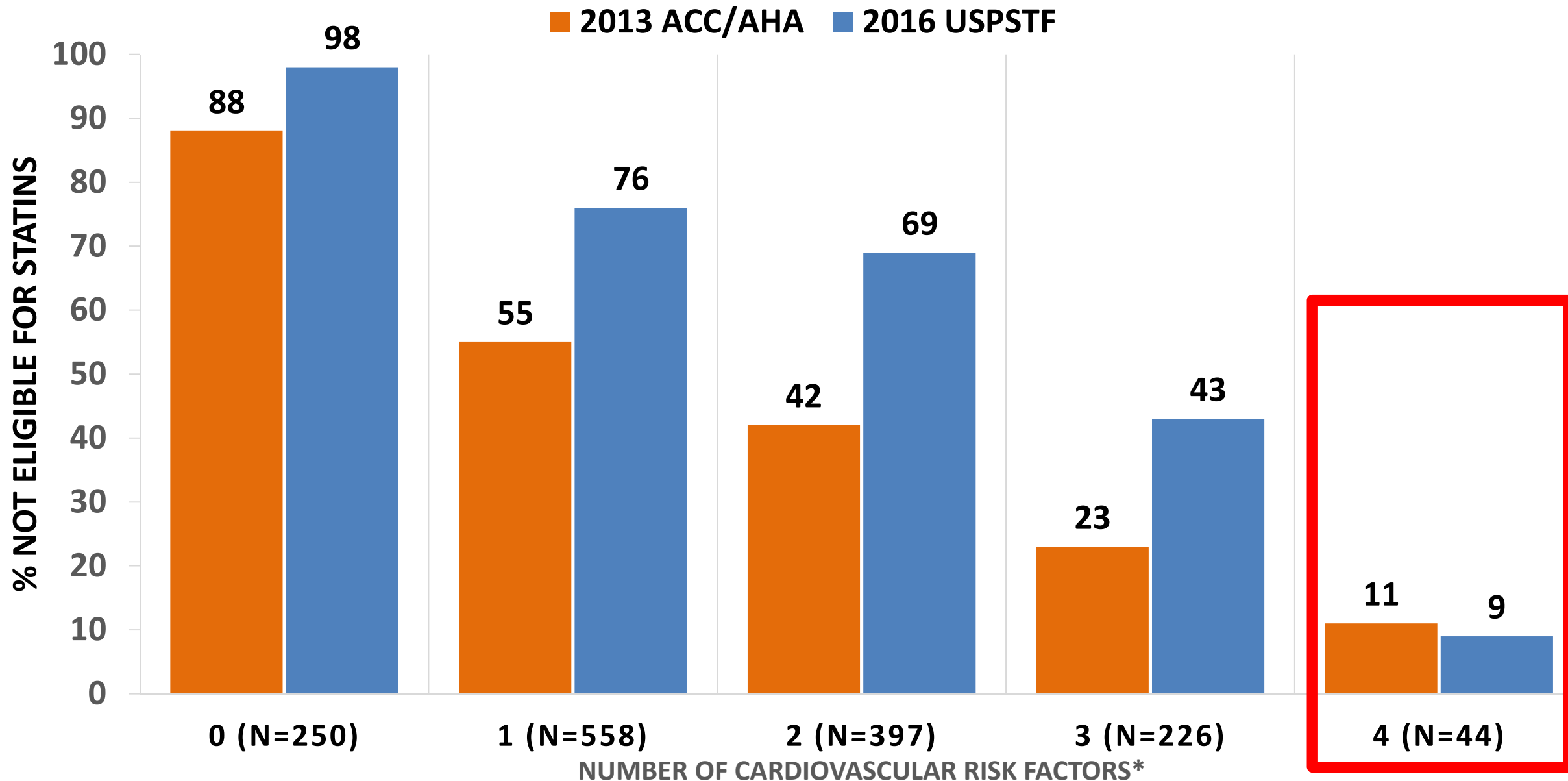
Statin Eligibility

Total



Burden of Risk Factors

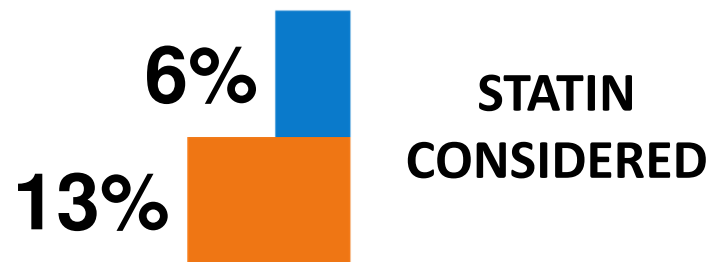
STATIN INELIGIBILITY AND NUMBER OF RISK FACTORS



Sex Differences

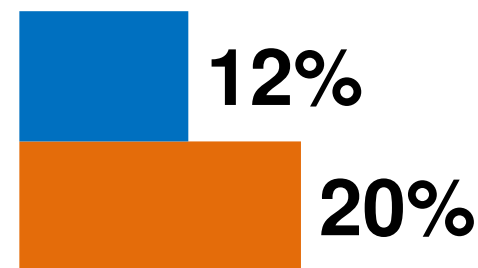
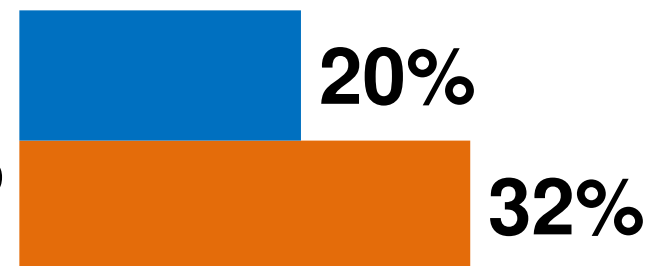
WOMEN

■ USPSTF ■ ACC/AHA



MEN

■ USPSTF ■ ACC/AHA



Limitations

- Retrospective
- We evaluated patients who experienced a MI, and did not assess the prevalence of risk factors across young individuals at-risk for MI.

Conclusions



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- The vast majority of young adults would NOT have met current guideline-based treatment thresholds for statin therapy prior to their MI.
- Significantly greater proportion of women were NOT eligible for statin therapy compared with men.

Implications



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- A low ASCVD risk score may be falsely reassuring in some young adults, especially if they have risk factors
- There is a need to re-calibrate existing risk scores or develop novel approaches for risk prediction among young adults
- Increased emphasis on prevention of cardiovascular disease is needed for young adults



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Cardiovascular Risk and Statin Eligibility of Young Adults After an Myocardial Infarction: Partners YOUNG-MI Registry

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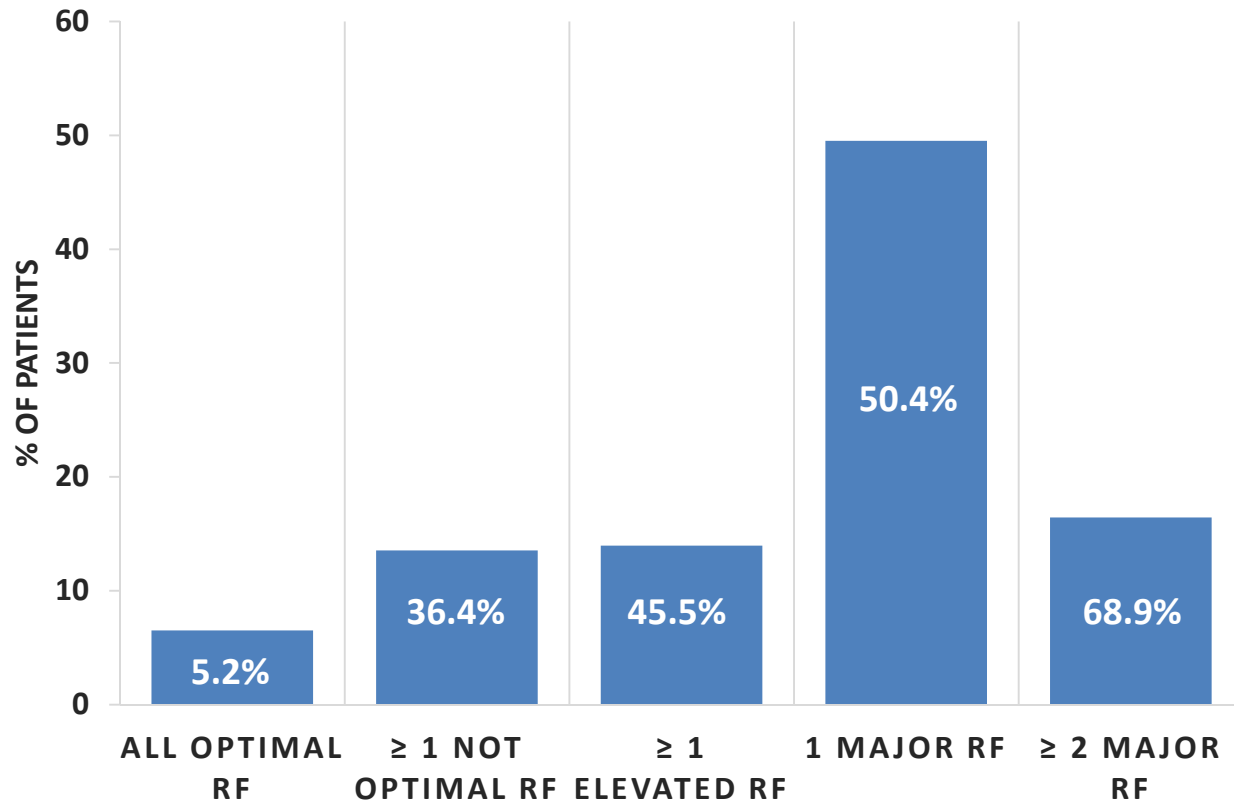
DOI: [10.1016/j.jacc.2017.11.007](https://doi.org/10.1016/j.jacc.2017.11.007)

Lifetime Risk



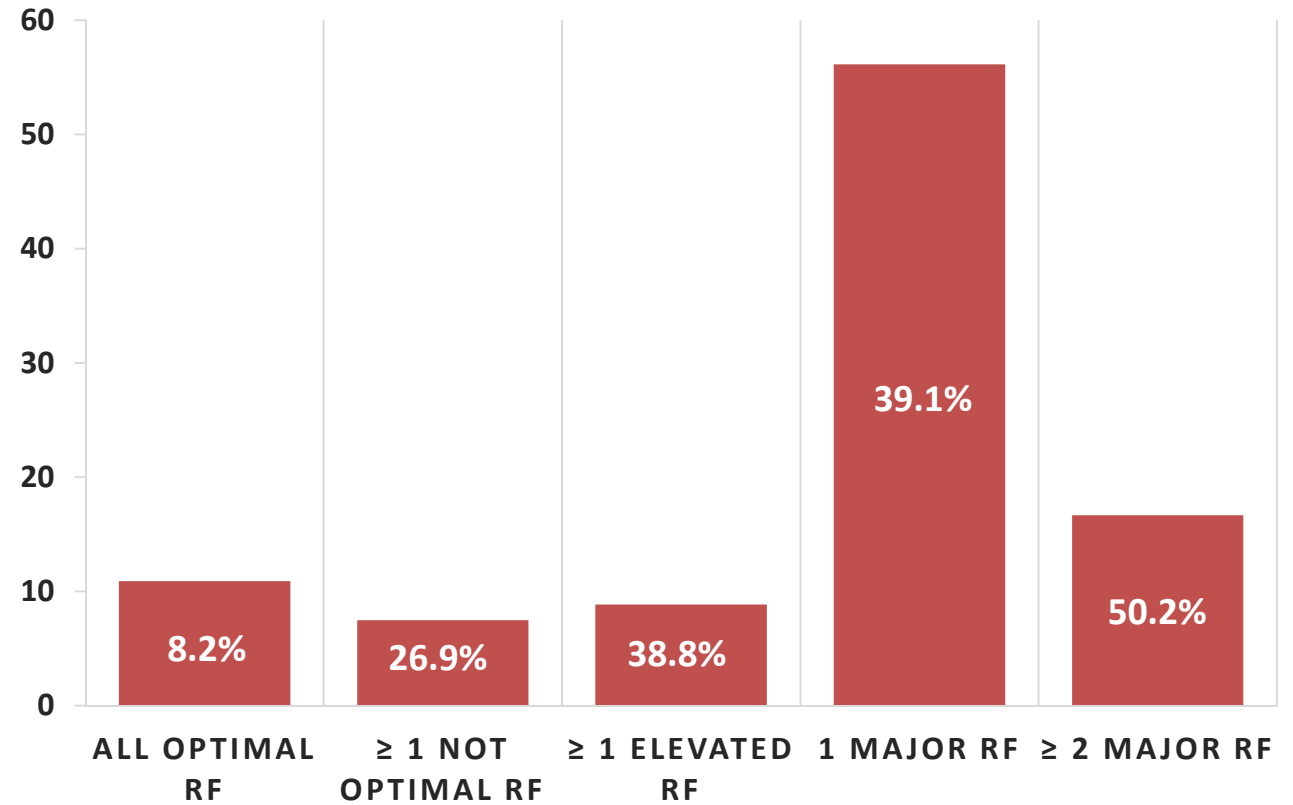
BURDEN OF RISK FACTORS AND LIFETIME RISK

■ Men



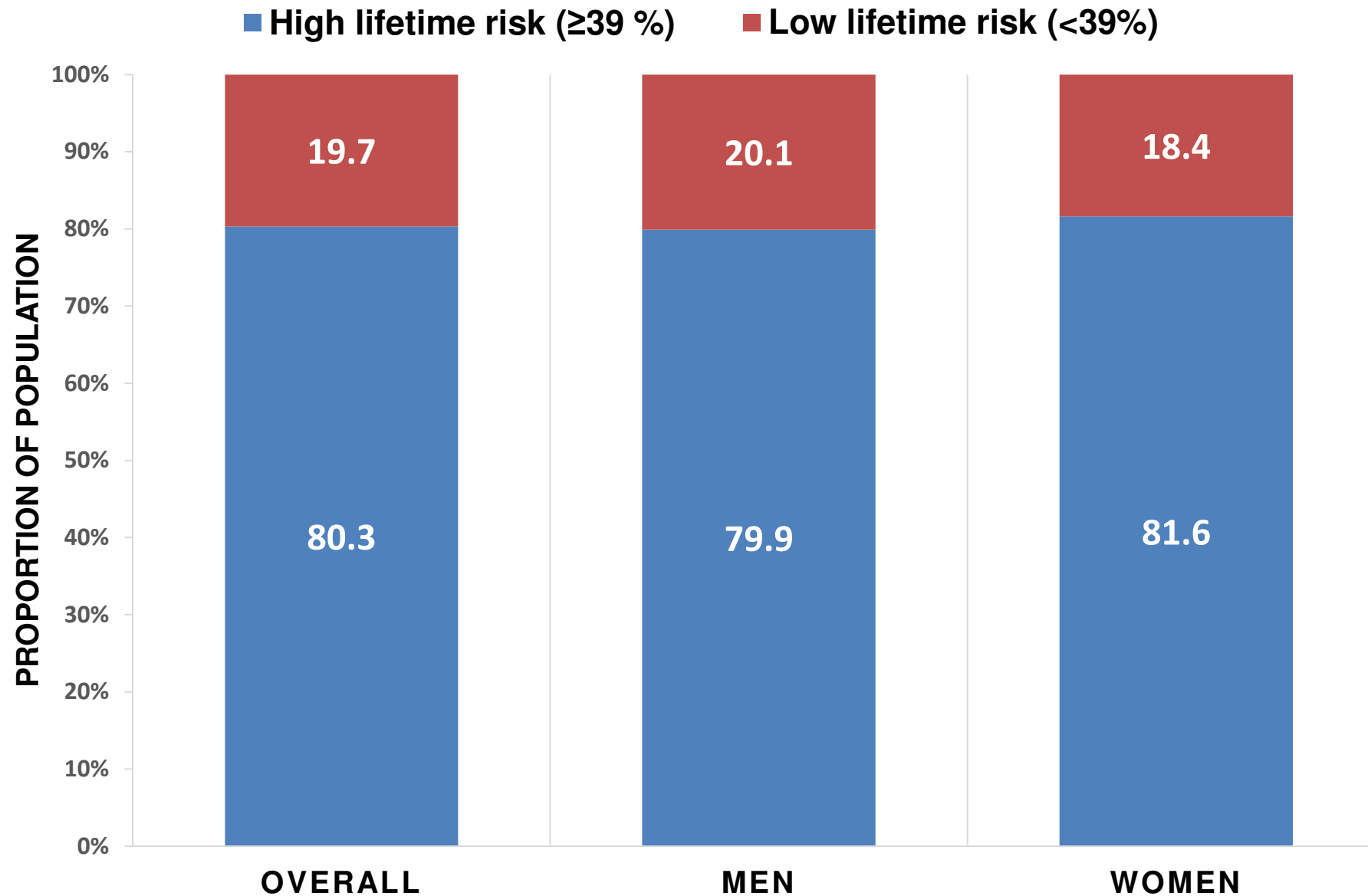
BURDEN OF RISK FACTORS AND LIFETIME RISK

■ Women



Lifetime Risk

LIFETIME RISK



Enhancement of Statin Eligibility

